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ABSTRACT

In continuing and building upon past efforts, the National Center for the Study of Writing and Literacy, in collaboration with researchers and practitioners around the world, is forging new theoretical and pedagogical directions in writing and literacy. The Center's research projects and activities aim to respond boldly and straightforwardly to the critical challenges facing educators across grade levels and curriculum areas. These challenges urge educators to move beyond the generalities of current writing theory and pedagogy. The Center aims to develop theories, research agendas, and principles of assessment and instruction that are built upon a thorough understanding of the diversity of the population and of literacy itself. To accomplish these objectives, the Center is conducting research projects and activities that address the concerns and make use of the knowledge and experience of practitioners, parents, community leaders, and employers. This integrative and collaborative approach is essential for the success of the Center and for true educational change. (A 20-page bibliography is attached.) (RS)

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CRITICAL CHALLENGES FOR RESEARCH ON WRITING AND LITERACY: 1990-1995

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> [T]he challenge that has always faced American education, that it has sometimes denied and sometimes doggedly pursued, is how to create both the social and cognitive means to enable a diverse citizenry to develop their ability. It is an astounding challenge: the complex and wrenching struggle to actualize the potential not only of the privileged but, too, of those who have lived here for a long time generating a culture outside the mainstream and those who . . . immigrated with cultural traditions of their own. This painful but generative mix of language and story can result in clash and dislocation in our communities, but it also gives rise to new speech, new stories, and once we appreciate the richness of it, new invitations to literacy. (Rose, 1989, pp. 225-6)

For literacy development in particular, the diverse populations that make up these United States, the people who meet in our educational institutions with their many languages, histories, and stories, present challenges and opportunities to teachers, from pre-kindergarten through the college years. Teachers aspire to help these diverse students acquire literacy skills and thereby to provide them with prerequisites to higher levels of education and better-paying jobs. The National Center for the Study of Writing and Literacy takes as its central mission the gathering of information to help educators improve their abilities to help all members of society become literate—across grade levels, across social classes, across language and ethnic groups, across educational settings.

In spite of many noble efforts over the years (Resnick & Resnick, 1977; Rose, 1989), the current educational literature is marked primarily by tales of our failures in the area of literacy: low and non-improving test scores in writing and reading on the National Assessment of Educational Progress (Applebee, Langer, & Mullis 1986a,b; NAEP 1990a,b); declining verbal scores on the Scholastic Aptitude Test and the American College Testing Program (Boyer, 1983); public dissatisfaction with the schools (Berger, 1989; Boyer, 1989); higher percentages of students dropping out before they complete their secondary educations (National Center for Educational Statistics, 1989; Policy Analysis for California Education, 1989). In response, educational reformers are calling for radical changes in the structures of schooling (e.g., Boyer, 1983; Commission on Excellence in Education, 1983; Goodlad, 1984; National Board for Professional Teaching Standards, 1989; Sizer, 1984; Stake & Easley, 1978): teachers need more and better education themselves as well as more power within their schools; students need to learn in more active ways; parents need to become more involved in the schools; the schools need to go "back to the basics" and to strive for "excellence." Even with all the recommended changes, most reformers still provide little guidance about precisely how to improve the literacy education of the diverse populations of students in our schools.

More specifically, there have been many calls for changes in educators' ways of thinking about teaching writing over the last twenty years. No longer viewed as a mechanistic skill, learned by drill in handwriting, grammar, and spelling, writing has become a "problem-solving process" in which ideas are drafted, revised, and honed for varied ends. Thus, writing instruction in school should be "meaningful," "functional," and "authentic." Students should be involved in "writing workshops" in which teachers interact with students about their writing, helping them to stretch their writing capabilities.

These general descriptors are helpful, as they emphasize the intellectual, rather than the rote, demands of writing and its potential as a learning tool throughout the curriculum, and too, they have helped shape a description of school as the place where students are "initiated" into the "academic discourse" communities of scientists, historians, social scientists, corporate executives, and so on. And yet they clearly are just that, general descriptions that do not seem to be powerful enough constructs to address the urgent needs for engaging all our students in the active, critical, functional use of written language, as educational reports and school district achievement and dropout statistics make clear. As the literacy demands of our technological society increase, so too does the problematic nature of literacy teaching in our schools.

To push beyond the generalities, we must situate writing, and the teaching and learning of writing, within the configurations of schooling, focusing not only on key transitions across the grades and across the curriculum in the schooling process, but also on the ecology of schooling within the family and community and on the ways that teaching and learning are judged and valued by diverse participants, among them parents and employers of our secondary school graduates. Writing can no longer be viewed as a neutral "problem-solving" skill shaped by varied social contexts, but must be seen as a way of participating in some kind of human discourse, as a way of giving voice.

Thus, we agree with Rose (1989) that, if the schools are to play a significant role in improving writing and literacy skills in our nation for all students, "we'll need a guiding set of principles that do not encourage us to retreat from, but to move us closer to, an understanding of the rich mix of speech and ritual and story that is America" (p. 238). The development of such principles implies the need for: a broader theory of literacy learning that includes understanding the cultures and the coming together of the cultures teachers and learners inhabit—from the peer group to the home to the community to the school; an expanded agenda for research that asks how learners adapt the language and literate resources they already control to a range of writing practices (e.g., shaping a narrative, doing analytical writing, composing a multi-media electronic document, explaining scientific concepts, arguing persuasively and inquiring effectively); and an expanded image of literacy education and assessment that recognizes the multiple purposes and practices of literacy and the diverse patchwork of learners who now inhabit our schools.

Thinking of writing as participating in dialogue, as Bakhtin (1981) has argued, means acknowledging that voices—these "articulations of consciousness"—are shaped by particular social and cultural histories. Thus, the Center aims to understand the educational resources and challenges of the varied "voices" of students; illuminate successes and problems throughout varied educational settings in engaging all students in school literacy in general and writing in particular; critically study our ways of evaluating the educational achievement of our students and, more broadly, our schools, and the ways in which that evaluation shapes the educational dialogue both in and out of the classroom.

Through our collective efforts, we ask:

1. ABOUT WRITING: What writing demands are made upon students in key educational, family, community, and workplace settings?

What relationships exist between the writing practices of schools as compared to families, communities, and workplaces?

How do these writing practices both support and require higher-order thinking and learning across the curriculum and across the grades?

2. ABOUT LEARNING: How do students meet these demands?

What variation exists in students' ways of writing? How is this variation related to familial and community experiences? to language background?

How do students' ways of writing—their strategies—change over time? How do students adapt what they know and negotiate new literacy practices?

How does students' writing figure into the language life of these settings, that is, what is its interrelationship with students' ways of speaking? with their ways of reading? How do these interrelationships change over time?

3. ABOUT INSTRUCTION: How do teachers help students meet these demands? How can student progress be measured?

What challenges do teachers in varied settings face as they work amidst the diversity of literacy practices, of learners, and of technological tools? What is the nature of helpful teacher behavior in writing instruction across settings? What institutional supports are needed to support important instructional changes?

What instructional strategies promote both writing and learning across the curriculum and across the grades?

What purposes does writing assessment serve—at the level of the classroom, school, district, state, and nation? What is involved in creating assessments designed to fulfill varied purposes?

How does assessment influence instruction, both in terms of how and what students are taught and in terms of how the results affect the school site? How does writing assessment relate to the assessment of reading and oral language development?

Guiding our investigation of these questions is a sociocultural view of writing, a view we present in the next section.

EXPANDING A SOCIAL-COGNITIVE THEORY OF WRITING: BUILDING A SOCIOCULTURAL VISION

Over the past five years, the Center for the Study of Writing has taken significant and positive steps toward building a more powerful theoretical framework for writing research and instruction by contributing to what we have called "a social-cognitive theory of writing" (Freedman, Dyson, Flower, & Chafe, 1987). This theory helped us bring together two strands of past research on writing: (a) studies of individual cognitive processes that dominated the research of the 1970s, and (b) studies of the immediate social contexts surrounding those processes that emerged in the 1980s. Flower (1989a) argues that this integrated theory "can explain how context cues cognition, which in its turn mediates and interprets the particular world that context provides" (p. 282).

In intertwining the social and cognitive, we have examined how writers—from early childhood through the adult years—form interactive relationships with teachers and peers that shape their learning, that become part of their individual thinking—part of what they write, how they write, where they write, for whom they write, when they write. As Vygotsky (1978) explains, "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p. 88).

In our current work, we intend, first, to expand our framework to include more analytic attention to how the complex of sociocultural experiences enters into literacy learning, experiences that have roots in social class, ethnicity, language background, family, neighborhood, gender. Without serious attention to the unfolding of this wider cultural frame in literacy learning, our vision of the whole remains partially obscured. Attending to this wider framework allows insight, not simply into the diversity of our population, but more critically into the diversity of resources students bring to the classroom—their knowledge, expectations, motivations, the discourse communities to which they already belong and the practices they already control.

Understanding the resources of our diverse population is critical because educators must build from those resources to help students use written language in ways that allow them to enter a range of new kinds of cultural dialogues. Literacy itself is not a monolith, a single ability, or capacity (Scribner & Cole, 1981). Instead, writing as an activity or social practice exhibits tremendous variety. High levels of literacy come about when writers control a range of specific discourse practices (e.g., shaping a narrative [Dyson, 1989], answering "what is this?" questions [Heath, 1982], doing analytical writing [Durst, 1987], explaining scientific concepts [Ammon & Ammon, 1990], writing letters of application [Hayes, Schriver, Hill, & Hatch, in progress] and placement essays [Bartholomae, 1985], reading to write for a rhetorical purpose [Flower, Stein, et al., 1990], constructing syntheses [Spivey, 1984], varied reports and memos [Odell & Goswami, 1982], and a range of community related texts [Gundlach, Farr, & Cook-Gumperz, 1989], including action-oriented arguments and proposals [Peck, in progress]). High levels of literacy depend as well upon writers' access to and control of available and culturally valued tools—traditionally, books, paper, and writing implements, and increasingly, electronic information technologies.

Literacy, we are arguing, places enormous demands on writers to enter new kinds of social dialogues, which entail adapting one's "voice" to a staggering range of distinctive practices. We are not suggesting that literacy learning in one domain doesn't transfer in many ways to other literate acts. However, we are suggesting that we have traditionally underestimated the challenge this adaptive, multi-dimensioned literacy presents. Understanding this adaptive process is a second major expansion of our theoretical frame.

Acknowledging the diversity of our population and of literacy provides a compelling context for our Center's mission and also brings some critical pedagogical issues into perspective. First, we must understand more fully not only students' resources and society's demands but also the nature of helpful teacher behavior. For example, many writing instruction issues center on how, when, and in what ways teachers can and should make explicit the distinctive demands of varied kinds of writing (Britton, 1989). Second, we must better understand how teachers can recognize and help students resolve the conflicts, and resulting motivational and attitudinal tensions, students face when asked to adopt literate "voices" they regard as awkward or even alien or threatening to their own sociocultural identities (Cazden, Diamondstone, & Naso, 1989; Ogbu, 1990).

In the following sections, we selectively review the literature that provides a basis for our theoretical approach to writing and, more particularly, for the Center's research projects.

Writing: Understanding Diverse Practices

Written language is a symbol system, a cultural tool members of a society use to carry on their lives together and that they pass on to their children (Heath, 1983; Scribner & Cole, 1981; Taylor, 1983; Taylor & Dorsey-Gaines, 1988). In the last decade

anthropologists, linguists, and psychologists have tried to specify writing's varied functions and forms—its usefulness—in a range of situations. The vision of writing as explicit—as able to exist on its own, meaningful for any "literate" person in any situation (Goody & Watt, 1963, Olson, 1977)—has been challenged by a vision of "multiple literacies," multiple ways of using written language, from lists, memos, and outlines, to extended narratives, informative reports, persuasive arguments, multi-media documents. Ways of using both oral and written language are seen as interrelated with ways of living—historical and geographical conditions; social and economic resources and opportunities; religious beliefs, values, and motivations (Cole & Nicolopoulous, in press; Cole & Scribner, 1977; Gee, 1988; Heath, 1983; Philips, 1975; Resnick, 1990; Scribner & Cole, 1981). Written language is thus always "embedded"—it always figures into particular kinds of communicative events and activities. Its form varies depending upon its uses.

Ethnographic and sociolinguistic research has illustrated how writing activities are socially organized within the ongoing life of particular groups (Basso, 1974; Diaz, Moll, & Mehan, 1986; Heath, 1983; Philips, 1975; Schieffelin & Cochran-Smith, 1984; Szwed, 1981). Like "speech events" (Hymes, 1972), literacy activities or events are characterized by varied components, including setting, participants (senders, recipients), purposes and goals, message form, content, channel, key or tone, and rules governing the sort of writing and talking that should occur (Basso, 1974). For example, informal letter-writing events differ from joint committee-report-writing events, which differ from list-making events.

Both the social and the cognitive demands and "consequences" of written language, then, depend upon the specific nature of the written language events within which that language is used, including the goals and the cognitive processes those events entail and the kinds of social relationships with others they embody. In other words, it is not writing per se but the sorts of social situations in which writing is embedded that determines its ultimate human effects.

The Center's research projects situate literacy learning within a repertoire of language and literacy activities or events and thus support an integrated study of the social and psychological dimensions of literacy development. Vygotsky's theory of *Mind in Society* (1978) suggests the nature of this study, for, from this perspective, literacy use is neither psychological or social but

> particular integrations of processes operating on both these levels. . . . [To] examine the integration of these processes, we need to pursue the analysis, not with respect to literacy "in general" but with respect to some particular unit or aspect of literacy (Scribner, 1987, pp. 20-21)

that unit being activity.

Center projects are contributing in important ways to the work on the demands of varied literacy practices, focusing on particularly critical situations for those concerned with literacy education. We are examining community, family, and workplace demands, comparing their uses of literacy with those of classrooms themselves, across grades and curricular areas. Moreover, we are using an interdisciplinary approach to our study that allows both the broad view of cultural, linguistic, and environmental influences on writing skill and fine-grain examinations of the strategies used by individual writers engaged in valued activities, examinations that will allow us to link function, process, and product and to examine the shifting relationships between writing and other kinds of visual and linguistic tools (e.g., oral language, drawing, video). In the following sections, we discuss both these aspects of our work.

The writing demands of families, communities, and schools. In our current work, we aim to examine the literacy demands of key social settings that shape both what students bring to the classroom and how successfully they are able to move from the classroom into the workplace. One such critical setting is the family. Much emphasis in literacy education, particularly in the early childhood and elementary years, has been on the value of middle-class norms of literacy use. There has been much less attention to possible familial dynamics in non-mainstream families that might help educators understand and build from students' literacy experiences and that might take advantage of parents' and children's out-of-school knowledge and activity (Auerbach, 1989).

Families of all social strata need varied literacy skills to survive, and they thus organize for and socialize members into ways of using literacy and writing in particular (Heath, 1983; Schieffelin & Cochran-Smith, 1984; Taylor & Dorsey-Gaines, 1988; Wagner, 1987). For example, Carol B. Stack (1990), who has studied the kinship networks of low income African-American families, suggests that children within extended family networks are flagged early on as potentially good readers and writers and thus assume responsibilities for "papers," for example, reading and writing forms and regulations for government agency papers, court summons, rent contracts, bills, and checks. In her Center work, Stack is investigating familial dynamics concerning writing, aiming to contribute to teacher-parent dialogues and to ground parent-involvement programs in a richer understanding of the roles families from diverse racial and ethnic backgrounds can and do play in children's literacy learning and, particularly, in their writing growth.

While focused on students' experiences in classroom settings, throughout Center projects there is a concern with understanding the kinds of connections that exist and that might exist between students' literacy experiences in and out of school. For example, one important influence on family and, more broadly, community literacy is the language spoken. Guadalupe Valdés and Sau-ling Wong are including in their study an investigation of the uses of written language outside of school by Spanish- and Chinese-speaking immigrant students and their families. Linda Flower is investigating similarities and differences in the kinds of argument discourse used by women returning to school in an inner-city community college program, and she will compare as well academic arguments and the arguments of adolescents using writing for social action in a community center. Anne Haas Dyson, in early childhood classrooms, Matthew T. Downey, in the intermediate grades, and Sarah Warshauer Freedman, as well as John Ogbu and Elizabeth Simons, in the secondary school are all considering the kinds of language and literacy resources that students bring to socially and ethnically diverse classrooms.

Besides the home and the classroom, another key literacy setting is the workplace, and we are particularly concerned with the interrelationships between the literacy, especially the writing, demands students negotiate as they move from the secondary school to the workplace. There has been some research directed at identifying literacy skills, particularly types of reading, required in particular occupations and a range of jobs in the military (e.g., Diehl & Mikulecky, 1980; Mikulecky, 1982; Stitch, Fox, Hauke, & Zapf, 1977) and, most recently, an interest in how workers in varied settings carry out complex but "everyday" cognitive tasks at work (Rogoff & Lave, 1984). Research on everyday cognition has suggested that people carry out much more complex work practices than we would expect on the basis of traditional testing instruments and conventional assumptions about the relationship between school-learning and work-learning. Although most such research has focused on situated uses of arithmetic, similar studies of literacy at work will allow us to design curricula that not only better prepare students for work but enlarge current understandings of literate practice (Cook-Gumperz & Hull, 1990). In her work, Glynda Hull is conducting such research, focusing on the nature of literacy, especially writing, in

work and work-training situations. Her project has potential links to the National Center for Research on Vocational Education at UCB and the National Center on Adult Literacy at the University of Pennsylvania.

An interdisciplinary approach. Much anthropological research focused on "literacy practices" both in and out of school has painted these practices with broad strokes, describing variations in the functions literacy serves for particular groups (Wagner, 1987). Since as a Center we are concerned with individuals who are members of varied groups and since we are interested in teaching and learning, we must of necessity focus on how those broad strokes are actualized in the fine details of teachers' and students' daily experiences, which are at once social, emotional, and cognitive.

To provide those fine details, we draw upon and thus integrate two often-separated areas of study—sociolinguistic studies of interaction and cognitive studies of the writing process—both of which offer helpful constructs, a vocabulary of sorts, for close analysis of literacy practices. As already suggested, in the Vygotskian-influenced concept of literacy practice, the two main features of literacy are, first, that it is a psychological tool used to mediate—to represent, analyze, and hypothesize about—experience and, second, that it is a part of a network of human relationships—literacy practices connect people. Thus, sociolinguistic studies help us describe the interactive relationships enacted through literacy activities, and studies of writing process allow us an analytic vocabulary for describing what people do when they use this tool. Importantly, those concerned with improving the education of our racially and culturally diverse student populace emphasize the interrelated nature of these same aspects of literacy use. To succeed, all students must have the opportunity to engage in the higher level thinking demands of the academic curriculum. But, at the same time, such engagement is problematic unless schools acknowledge the "centrality of human relationships" to student learning—the importance of feeling socially and emotionally connected to the academic world (Committee on Policy for Racial Justice, 1989, pp. 32-33).

To elaborate, from a sociolinguistic perspective, written and oral language use are intertwined in complex ways. For example, in classrooms, writing itself is taught as teachers and students talk in the course of such events as teacher-student writing conferences (e.g., Calkins, 1983, 1986; Freedman, 1987b; Freedman & Katz, 1987, Freedman & Sperling, 1985; Graves, 1983; Sperling, 1990), peer conferences (e.g., Berkenkotter, 1984; Elbow, 1973; Freedman, 1987a,b; Freedman & Bennett, 1987; Gere & Abbott, 1985; Healy, 1980; Macrorie, 1970, 1984; Moffett, 1968; Nystrand, 1986), and informal interaction among teacher and children during writing itself (Daiute, 1989; Dyson, 1989; Greenleaf, 1990). However, to be successful in any curricular area, including writing, it is not enough for students to know in an academic sense—they must know how to display what they know through appropriate talk (e.g., Bremme & Erickson, 1977; Cazden, 1986, 1988; Green & Wallat, 1979; Mehan, 1979; Merritt, 1982; Shultz & Florio, 1979; Wilkinson, 1982). That is, they must be familiar and comfortable with the kinds of questions that teachers ask, with the ways people take turns speaking, or with the sorts of relationships expected among the children themselves. Throughout research projects and activities, the Center is exploring how particular kinds of interactive relationships between participants in varied literacy settings—and the sorts of talk that enact those relationships—influence students' learning in our very diverse society.

From a cognitive perspective, writing is a process of individual decision making (e.g., Emig, 1971; Flower & Hayes, 1977, 1980, 1981a; Matsuhashi, 1981; Perl, 1979; Pianko, 1979; Stallard, 1979). Thus, writing involves processes like planning, transcribing text, reviewing, processes which do not occur in any fixed order but are guided by the individual writer's goals (Bridwell, 1980; Daiute, 1981; de Beaugrande,

1984; Faigley & Witte, 1981; Flower & Hayes, 1980, 1981a; Matsuhashi, 1981; Perl, 1979; Sommers, 1980; Witte, 1983, 1985, 1987a,b). That is, it is a hierarchically organized, goal-directed, problem-solving process (Bereiter & Scardamalia, 1987; Collins & Gentner, 1980; Flower & Hayes, 1981b; Hayes & Flower, 1980). For example, differences in what writers revise are related to how they detect and diagnose problems. Moreover, the writing process varies with different modes of discourse or types of writing, be it the amount of attention to audience or engagement with the task itself (Applebee, Durst, & Newell, 1984; Britton, Burgess, Martin, Mcleod, & Rosen, 1975; Chafe, 1982; Durst, 1987; Emig, 1971; Hidi & Hildyard, 1984; Kroll, 1978; Langer, 1986; Marshall, 1987; Perron, 1974; Tannen, 1982).

Since research on "the" writing process began, we have become more qualified in our descriptions of that process, for the nature of the process depends not only upon the kind of writing being attempted, but also upon the writer's complex of purposes and upon the situational conditions—in other words, the process is shaped by the dimensions of literacy events already discussed. Moreover, writing processes change, not only over contexts, but also over time. Children do not develop as writers by simply imitating "experts." Development takes its own course and must be examined as it unfolds, from the child's point of view, not from the adult's.

Thus, in our research projects the process research is not used as offering simple prescriptions for pedagogical practice—but as a vocabulary that can help describe literacy practices, particularly some of the decisions individual writers make as they plan, draft, revise, or edit, and how individuals' ways of participating in particular practices change over time. In the next two sections, we focus on teaching and learning themselves. While those two concepts are linked in complex ways, for organizational purposes, we focus first on students' growth and then on instruction.

Learning and Development

As discussed, Center research projects situate literacy learning within particular kinds of activities and, indeed, it is within such events that young children are initiated into the use of the written medium. Because the written system is used by a community of people, children, like learners of all ages, at least potentially have models of the system in use, as well as more skillful others, to guide their use of the system and, moreover, to shape their perception of the multiple ways written language functions in their society. Too, they have their own sensitivity to patterns or regularities in experience (Piaget & Inhelder, 1969; Donaldson, 1978). Over time, children's use of the written system reflects more sophisticated understandings of the relationships between graphic symbols and meanings and, also, of the kinds of relationships that can be enacted between and among producers and recipients (e.g., long-distance relatives; parents and babysitters; customers and waiters; teachers and students).

In studying this developmental process, writing and literacy researchers have grappled with how development—or transformations in written language knowledge over time—should be described (Dyson, 1990). To what extent can patterns or "stages" of growth be defined? Does—and how does—diversity in learners' background shape the nature—not just the pace—of this growth? Since descriptions of "normal" or "natural" literacy growth shape teachers' expectations and assessment, these are questions of both theoretical and pedagogical urgency.

Researchers have grappled as well with the interrelationships between learning to write and learning in general. How does the development of disciplinary discourse—oral and written—interrelate with the development of complex concepts and problem solving

skills? How can such questions of language and cognition be addressed when in fact it is students' language use that provides our major means of both teaching and assessing student knowledge and skill across the curriculum? The influx of non-English-speaking students into our schools dramatizes the importance of examining more critically the ways in which writing serves (or does not serve) learning. It illustrates too how interrelated are questions of oral and written language growth. These concerns with the nature of *growth*, with the interplay between *learning to write and learning across the curriculum* and between *oral and written language*, are central to the Center's research work. We next detail the theoretical rationale guiding our ways of addressing these concerns.

A situated approach to writing growth. In the late seventies, when interest in the development of written language was burgeoning, many researchers believed that developmental "stages" of written language could be identified, that is, that children's emerging grasp of the medium could be described in orderly sequences of clearly specified behaviors, sequences that would be appropriate for all children (see, for example, Graves, 1975; King & Rentel, 1979). These "stages," however, referred to varied strands of written language growth (Dyson, 1987a). For example, many researchers studied how children come to understand the orthographic encoding system (e.g., Ferreiro & Teberosky, 1982; Read, 1975) and the intricacies of graphic segmentation and punctuation (e.g., Cazden, Cordeiro, & Giacobbe, 1985; Edelsky, 1983), tracing the evolution from early forms, like a five-year-old's ILVBS, to the more conventional, like I love [ILV] spaghetti (pronounced "bashetti," hence BS). Still others have examined such text-level features as the changing structural organization of children's stories or reports (e.g., Applebee, 1978; King & Rentel, 1981; Langer, 1986; Newkirk, 1987), or changes in children's control of the varied processes involved in forming such texts (e.g., Graves, 1975, 1983).

Within each strand of written language, general patterns in how children perform particular sorts of writing tasks have been suggested. Moreover, these patterns have revealed that written language learning, like other kinds of symbolic learning, is a conservative affair (Goodnow, 1977; Slobin, 1979). For example, in acquiring discourse forms, learners do not seem to adopt wholly new structures, but, rather, solve new text-forming problems by gradually adapting forms already controlled (Bartlett, 1981; Langer, 1986; Newkirk, 1987).

And yet, descriptions of strands of written language growth alone cannot help us understand the dynamic relationships of the written system itself, that is, the nature of the interrelationships between encoding words, building discourse worlds, and enacting particular functions. Further, more recent scholarship has emphasized the variability of written language as a social tool. While all children encounter the same basic encoding system, they experience different degrees and kinds of discourse functions and forms (Heath, 1983; Schieffelin & Cochran-Smith, 1984), making a linear description of development problematic.

To understand patterns and processes of change in systematic growth, the Center is examining written language learning and development in new ways. First, we are investigating change, not just in strands of knowledge, but in how learners participate in particular kinds of school activities and in the kinds of human and material resources that support and guide this change. Second, we are studying how sociocultural differences in resources influence, not simply the pace, but the nature of written language growth, as learners transform ways of using language already controlled. Center projects across the grades, across the curriculum, and for different population groups reflect this "situated approach" to development.

Diversity in early literacy development. Situating literacy learning within a repertoire of language and literacy activities or events is particularly important for non-mainstream children. Researchers, often influenced by developmental psychology, have studied the literacy knowledge of non-mainstream children (e.g., sound/symbol knowledge and knowledge of written language discourse, particularly story language), portraying the children as less knowledgeable about written language than middle-class children (Dickinson & Snow, 1987; Purcell-Gates, 1989). Others, often sociolinguistically oriented, have documented the difficulty non-mainstream children may have in participating in the interaction of school literacy events; for example, much direct questioning by an adult, questioning about "obvious" characteristics of objects (colors, shapes, etc.), competitive relationships with peers (e.g., Bremme & Erickson, 1977; Cazden, 1988; Cazden, John, & Hymes, 1972; Erickson, 1979, 1982; Erickson & Mohatt, 1982; Freedman & Bennett, 1987; Freedman & Sperling, 1985, Green & Wallat, 1979, 1981; Heath, 1982, 1983; McDermott, 1978; Merritt, 1982; Michaels & Cook-Gumperz, 1979; Moore, 1990; Philips, 1972, 1982; Piestrup, 1973; Shultz & Florio, 1979; Shultz, Florio, & Erickson 1982; Shuy & Fasold, 1973; Sperling & Freedman, 1987; Tizard & Hughes, 1984). However, a combining of these perspectives is rare; few scholars have emphasized how children build from the language and literacy resources they do possess as they respond to the literacy demands of school.

For example, research in early literacy has placed enormous emphasis on the value for eventual school success of early experience with Western and written narratives, experience more common in middle-class homes (Anderson & Stokes, 1984; Heath, 1983; Teale, 1986). Clearly narrative itself has a central role in early childhood, in part because it is a basic means by which young children organize their learning (Kegan, 1987). However, while ubiquitous in human cultures (Rosen, 1985), there is substantial sociocultural variation in storytelling (for an excellent review, see Miller, Potts, & Fung, 1989). And yet the value of stories told in other than mainstream "registers" has rarely been discussed, nor have there been extended studies of how children themselves might use alternative storytelling traditions as resources for written language growth.

Understanding such variation is the central aim of Dyson's project in an urban, multi-ethnic school. Building on past Center work documenting developmental links between children's use of varied media (particularly speech, drawing, and writing), Dyson is focusing on how variation in children's language repertoires (their ways of participating in particular kinds of language and literacy activities, including conversational storytelling) influences the course of development itself as well as the nature of classroom dynamics. Over time, she is examining not only how children's participation in particular activities changes but also how the relationships change between each child's ways of writing stories and their ways of participating in other literacy and story-creating activities. The project should thus give rise to new understandings of how children weave new literacy possibilities from a diversity of resources heretofore ignored in the literature.

Writing development across the curriculum. Major national concerns about learners as they proceed through school center on their ability to produce particular kinds of discourse forms thought both to reflect and promote higher-order thinking across the curriculum: informative descriptions and analyses, persuasive arguments, and imaginative narratives (NAEP, 1990). To gain functional control over such discourse forms, students must come to understand what those forms, in both their substantive and social functions, are meant to do—how functions and forms place authors in particular stances toward the experienced world and toward anticipated readers (Bruner, 1986; Dyson, 1988; Rubin, 1988).

Through Center research and activities, we aim to emphasize the link between how students use written language and how they engage in particular subject matter areas and how that link is mediated by activity. To elaborate, the effect any writing activity has on thinking is linked to the purpose that writing serves and the sorts of cognitive activities it involves (Scribner & Cole, 1981). Similarly, the effect any content area activity has on conceptual understanding depends upon the nature of materials and topics and how students are asked to interactively make use of them (Erickson, 1982; Shemilt, 1980). Indeed, in recent years scholars have decried the emphasis on rote learning, which does not intellectually engage students, not only in writing and literacy education but also in mathematics, science, and social studies education.

This link between social activity, cognition, and literacy is emphasized in a number of Center projects. For example, Downey and colleagues, with Mary K. Healy as a consultant, are studying how elementary school students, including many recent immigrants from Central American and Asian countries, engage in a wide variety of history activities involving different historical materials (e.g., photographs, primary sources, oral history tapes) and activities designed by teachers to foster different kinds of writing and thinking: personal narratives, biography, expository writing, historical fiction. The Downey project is examining the kinds of historical reasoning reflected in different kinds of history-making activities, how that reasoning is reflected in students' products and in their interaction with teacher and peers, and how that reasoning changes over time. There has been scant attention to the evolving interrelationships between writing and content understanding in the much-neglected intermediate grades, the years from 8 to 12. Further, it seems particularly valuable for this Center to emphasize history, since it is the social studies curriculum that has been the focus of efforts to promote sociocultural understanding, a key concern of our Center and of the nation.

As students proceed from the elementary school to the secondary and college classroom, such integrated examinations of literacy and content area development become much more difficult. "Learning to write" becomes the province of the "English" classroom and "learning discipline-specific thinking" that of the "content area classroom." This division of the curriculum raises complex issues about how differences in students' language backgrounds influence their ability to engage in and display academic content requirements. It is to these concerns we now turn.

Writing and ESL Students. While language use, and writing in particular, can be an enormously helpful tool for learning, it can also constrain students' opportunities to explore and display their knowledge fully—a point dramatically emphasized by a consideration of the schooling experiences of limited-English-speaking children.

It is estimated that two-thirds of limited-English-speaking children are not receiving the language assistance they need in order to succeed in their academic and intellectual development (LaFontaine, 1987). At the elementary level, self-contained classrooms at least make possible integrated curricula in which children can make use of both their native and new language to explore interesting content (Rigg & Enright, 1986); at the secondary level this possibility becomes even more problematic, as "language learning" in ESL classes is by definition separated from other "subjects." Further, in order to exit from the ESL support track and to be permitted to enroll in mainstream classes, students may be expected to write conventionally-correct essays about their learning and to participate in class discussions, no matter how much they personally might be capable of profiting from the instruction and how able they might be to demonstrate knowledge of the subject without the use of extended discourse (McKay & Freedman, 1991). Yet, we know little about how writing ability in a second language develops, when it develops, what relationship this

ability has to other evidence of language proficiency, and what instructional strategies should be used in order to bring this development about.

Indeed, little research has been carried out on writing in second or foreign languages. Moreover, a review by Valdés (1988) of studies on the writing of Hispanic-background students revealed that most research did not assess the actual oral language proficiency of the students. Students were grouped together and labeled limited-English-speaking, Spanish-surnamed, ESL students, but seldom were any attempts made to determine whether these students were indeed similar in either English proficiency or experience with writing. Clearly, we need to know about students' varied literate practices in their native language and their oral language processes in their new language in order to draw conclusions about the interrelationships between the development of oral and written language. Our understanding of second language development cannot rest solely on the work of those who have studied students who are experienced writers in their native language (e.g., Choi, 1988; Clyne, 1987; Hinds, 1980, 1983; Jenkins & Hinds, 1987; Kaplan, 1966; and Matalene, 1985).

In their Center project, Valdés and Wong are investigating the writing of incipient bilinguals (individuals who are in the initial process of acquiring a second language). They are focusing on newly-arrived immigrant high school students enrolling in an English-medium school for the first time. Valdés and Wong are documenting the nature of their writing growth, analyzing the relationship between that growth and other areas of language proficiency development (e.g., oral language), and examining the challenges they experience in meeting the written English expectations of their instructional program.

Writing, diversity, and entry to higher education. Much recent research has focused on how to support all students' successful adaptation to the academic writing demands of higher education. The agenda of educational research has focused on three critical aspects of writing and thinking: the knowledge a writer brings, the cognitive processes a writer engages in, and the rhetorical demands of particular academic areas. For example, research on expertise shows the enormous influence domain-specific topic knowledge has on the way people see meaningful patterns, structure information (Glaser, 1986), and devise procedures for solving problems (Anderson, 1983). Research on cognition in writing has revealed the repertoire of strategies writers have for planning and revising (Flower, Schriver, Carey, Haas, & Hayes, in press; Hayes, Flower, Schriver, Stratman, & Carey, 1987), the linguistic knowledge they draw upon for producing text (de Beaugrande, 1984; Frederiksen & Dominic, 1981; Perfetti & McCutcheon, 1987), and the perceptual knowledge they use for detecting problems (Schriver, in press). Research on disciplinary demands is helping to demystify the rules of freshman versus "basic" college writing (Bartholomae, 1985; Hull & Rose, 1989), academic discourse (Flower, Schriver, et al., in press) or scientific discourse (Bazerman, 1985).

Despite these advances, it is clear that writers of all levels are not passive learners of "expert" processes. Rather, they bring a rich past experience of negotiating varied rhetorical situations. As already noted, Center researchers are committed to understanding how students' comfort with and control of particular ways of participating in discourse activities—the knowledge and practices different populations of students bring to writing—influences the course of subsequent learning. And we are committed to understanding that influence, not only in the early years of schooling, but at all points in the educational process when entries to educational settings—and to new writing demands—are made.

For example, much of academic writing in higher education involves the problem of recognizing multiple and conflicting authorities in one's reading, while working from these to construct in writing a position—a voice—of one's own. This problem has been central

to much previous Center research (e.g., Flower, 1988, 1989b; Spivey, 1987). Current Center research is building on this work by highlighting the sociocultural complexity of this process. To illustrate, Flower is examining how writers as learners interpret and negotiate three distinctive literate contexts—a summer program for minority students making the transition from high school to college, a program for low-income women entering a community college, and a literacy program that involves urban teenagers in community action projects. She is tracking how these writers translate their understanding of constructing arguments as they engage in "reading-to-write" tasks in which they must construct powerful arguments. She is examining in fine detail how they write (e.g., the ways they plan and revise, the conventions they invoke, the conflicts they meet, the texts they produce). Moreover, she is interested in the sorts of awareness or metacognitive control they have or can achieve over their strategies as they negotiate among familiar and new rhetorical contexts, as they search for relevant knowledge, useful strategies, and appropriate stances to face new tasks. Nancy Nelson Spivey too is focusing on the development of new ways of giving voice—of arguing, critiquing, contributing. She is focusing on patterns of college students' learning of discourse knowledge in the disciplinary communities of the social sciences.

Schooling and Instruction

Over the past twenty years, educators have called for school-based writing activities that emphasize the importance of students' writing processes, of starting where the child is, of using writing to help students learn academic subject matter, of teaching writing in conjunction with reading and talking so that each language process will reinforce the other. The profession is guided by slogans to match these emphases—"the writing process approach," "the child-centered classroom," "writing across the curriculum," and "whole language." Professional books provide examples of how teachers from preschool through the university can structure literacy activities to enact the new approaches (e.g., Atwell, 1987; Calkins, 1986; Elbow, 1973, 1981; Graves, 1983; Macrorie, 1970, 1979; Moffett, 1968; Moffett & Wagner, 1983; Perl & Wilson, 1986; Smith, 1982). Since the early 1970s the National Writing Project and other inservice groups have worked with master teachers who then help their peers make changes in these directions (Gray, 1986). We also have evidence from national surveys of teachers and students that process teaching is spreading into and affecting the school curriculum (Freedman, 1987b; NAEP, 1990b).

In spite of these massive professional efforts, the newly framed activities, according to NAEP results, are not leading to the hoped for improvements in student writing (NAEP, 1990b). Although Hairston (1982, 1986) suggests that one of the new directions, the move from product to process, implies a revolution in instruction, there is evidence that this new direction is not being widely or effectively implemented (e.g., Applebee, 1981, 1984, 1986; Freedman, 1987b; Hillocks, 1986; Langer & Applebee, 1987; Swanson-Owens, 1986) and that it is insufficient for meeting the needs of low-SES and minority students (e.g., Delpit, 1986, 1988). We have made real gains in our understandings about teaching writing, but these gains need to be consolidated and adapted more fully to the institution of schooling and especially to the diverse writers coming together in our classrooms. Further, our ways of measuring progress, that is the assessments of school-based literacy programs and of student progress, may preclude our seeing changes (Cooper, 1977; Freedman, 1984a,b; Odell, 1981; Odell & Cooper, 1980; Ruth & Murphy, 1988). Current writing tests usually require timed responses to set topics and are not designed to measure accurately students' capabilities as writers (e.g., Emig, 1982; Lucas, 1988a,b; Wiggins, 1990). These tests are particularly biased against low-SES and minority students (e.g., Deyhle, 1987; O'Connor, 1989; Williams, 1983). Since schools hold primary responsibility for helping individuals become literate, and in the end producing a nation of proficient writers, schools will have to show how the literacy

activities they promote lead to student growth. To these ends, Center projects are looking very precisely at how particular pedagogical practices are enacted in classrooms serving students with diverse resources and needs, to understand how practices do and do not take advantage of these resources and meet these needs. We now selectively review past research on the writing activities that occur inside schools and then explore what is involved in assessing schools' writing programs and students' progress as writers.

Writing activities inside schools. The concept of multiple literacies is helpful as we consider ways of meeting students' diverse needs. The schools must open up literacy activities to include both the kinds of literate practices students bring with them and opportunities to adapt their experiences to the changing demands of schooling. However, the actual range of literacy activities students experience in schools includes, in the secondary school, mostly expository writing for the teacher as examiner, and in both the elementary and secondary school, little extended writing for any audiences (e.g., Applebee, 1981; Bridge & Hiebert, 1985; Britton et al., 1975; Freedman, 1987b).

The schools are attempting to broaden the curriculum, but they face complications. An interesting case can be found in California. Based on a notion of multiple literacies, the *English Language Arts Framework* (California State Department of Education, 1987) and the new California Assessment Program (CAP) are encouraging teachers to expose students to multiple kinds of writing, with tests of writing at grades three, six, eight, and twelve in eight domains (e.g., for grade eight: autobiographical incident, firsthand biography, report of information, observation, analysis/speculation about causes and effects, evaluation, problem/solution, story). Preliminary survey results are showing that California teachers feel positive about the changes (Cooper & Murphy, in progress), but recent studies inside classrooms are finding unresolved tensions. Although the idea of broadening the literacy curriculum is critical, the tensions seem to be arising because the new tasks are abstract "textbook genres" often taught in rote ways (Loofbourrow, 1990); they do not include directions for building on the knowledge students bring nor for helping them transform or adapt that knowledge in specific ways. From the perspective of our mission, to learn to produce new kinds of genres, students must engage in new kinds of literacy practices. That is, the genres are only the forms—the mediums—through which new kinds of purposes and human relationships are enacted. The crucial educational question is, what kinds of explicit ways can teachers find to build, not simply new forms, but whole practices from those the students already control.

To answer this question, we must consider the role of teachers in written language learning and, particularly, the role of explicit instruction. The rhetoric of the writing "process," the "student-centered" curriculum, and "whole language" has often been interpreted to imply a passive role for teachers (Cazden, in press). However, this same rhetoric has been associated with images of instructional "scaffolding" (see discussion in Cazden, 1988) and "response" (Freedman, 1987b) which imply some form of explicit teacher help. These tensions about explicit instruction seem to center less around the fact of its existence than around its substance and form.

For example, Christie (1987), Corcoran (1989), and others following Halliday's (1975, 1978 1985) work in systemic linguistics argue in favor of explicitly teaching features of genres, while Dixon (1989) and Reid (1987) eschew the notion of fixed genres and the value of explicitly teaching notions of generic choice. Those arguing against the teaching of genres suggest that such instruction will encourage formulaic writing and writing processes. Those arguing for explicit instruction suggest that merely providing students with opportunities to write, even for real audiences and purposes, involves no teaching at all and consequently will not lead to learning. In literacy classrooms, these issues of explicit instruction involve not only the teaching of genre but also the teaching of

encoding and decoding in early literacy instruction (cf., Adams, 1990; Anderson, Hiebert, Scott, & Wilkinson, 1985; Davidson, 1988) and the explicit teaching of writing and comprehending strategies in the intermediate and secondary grades (see reviews in Hillocks, 1986; Pearson, 1986; Pearson & Dole, 1987; Scardamalia & Bereiter, 1986). In all these areas of the literacy curriculum, the arguments tend to polarize the issues.

For low-SES and minority students the issue of explicit instruction is even more complex. Delpit (1986, 1988) argues that the emphasis of the natural writing process approach on meaning-making comes at the expense of attention to the formal features of standard English writing and may deny many minority and low-SES students access to information which is more readily available outside of school to mainstream students (see Kress, 1982, 1985 for similar arguments). As Delpit points out, research on the writing process, like illustrative material in process-oriented books for teachers, has focused primarily on mainstream communities and thus has not offered specific help to teachers serving other kinds of populations. Consider, for example, the popular books by Graves (1983) and Atwell (1987).

In Center research, we aim to reframe and reconceptualize the issue of explicit instruction. We do not equate explicit instruction with simply giving students information about the rules, structures, and processes of written language. Rather, we ask how particular instructional strategies build explicitly on existent student resources. Central to explicit instruction in literacy, as we have defined it, is the engagement of students, so that the full range and depth of their resources can be tapped (Hayes, Schriver, Hill, & Hatch, in progress). Writing for real audiences and purposes is perceived to encourage engagement (Britton et al., 1975; Edelsky & Smith, 1984), as is writing that connects students' lives inside and outside of school (Dyson, 1987b; Elsasser & Irvine, 1985; Hardcastle, 1985). Previous Center projects have found that engagement occurs as the writing activities come to be valued by the peer group (Dyson, 1989; Freedman, 1989). To promote high literacy levels for all students, it is essential to examine the special challenges of teaching students from low-SES and non-mainstream cultural backgrounds and to support teachers in their efforts to create literacy activities and school and classroom environments in which all kinds of students will participate. This is especially difficult as, given the obstacles to social mobility in the world outside school, non-mainstream students may have little faith in the promises of schools (e.g., Eckert, 1989; Fordham, 1988; Fordham & Ogbu, 1986; Giroux, 1983; Labov, 1982; MacLeod, 1987; Matute-Bianchi, 1986; Mehan, 1989b; Ogbu, 1974, 1981, 1985, 1988; Willis, 1983).

To break the destructive cycle of school failure, teachers must establish meaningful communication across ethnic and sociocultural boundaries, as discussed earlier, so that they more accurately judge children's knowledge and academic capabilities and appreciate and make use of their experiential and language resources in creating productive classroom environments (Erickson, 1987; Knott, 1986; McDermott, 1990). Competitive classrooms (Gilbert & Gay, 1985; Labov, 1982; Philips, 1972; Stack, 1974; Tharp et al., 1984) and ability grouping (Alexander & McDill, 1976; Boyer, 1983; Braddock, 1990; Gamoran, 1990; Goodlad, 1984; Nystrand, 1990; Oakes, 1985; Persell, 1977; Rosenbaum, 1980; Slavin, 1990; Vanfossen, Jones, & Spade, 1982) work against such environments. Moreover, teachers' challenges in creating a match between curricular choices and student resources and needs are exemplified by Delpit's (1986, 1988) essays on explicit instruction, Foster's (1989) study of effective instructional styles, and Dyson's (1990) essays on varied ways of entering school literacy, many of which are not recognized or accepted in early writing research and practice.

In the past few years, the news media have reported on several successful and dramatic attempts to meet these challenges—from grassroots community efforts to school-

university collaborations. For example, working with youngsters from particular ethnic groups, some African-American and Hispanic community leaders have initiated programs to provide low-SES students with high quality instruction tailored to student needs, financial assistance, mentoring, and positive community recognition for school achievement (e.g., a pre-med program at Xavier University in Louisiana for African-American undergraduates [Chira, 1990]; the Puente program, which has increased the transfer rates from the community college to the university for Latino/Chicano students [Saucedo & Scott, 1988]; a program to identify ninth-grade Los Angeles African-Americans who are achieving in school and to help them through high school and prepare them for entrance to four-year colleges [Irving, 1990]; a business program at Florida A & M that prepares African-American business graduates for corporate careers [Kilborn, 1990]). These programs help students who have shown signs of success in the educational system to make crucial transitions into higher education or professional careers. However, they have not focused on those students who stop achieving early on and who continue to pose some of the most significant challenges to education.

There have been only a few research-based efforts to make education successful for younger low-SES and minority students who may not be engaged (Au, 1980; Au & Jordon, 1981; Au & Mason, 1981; Heath, 1983; Heath & Branscombe, 1985; Heath & Mangiola, in press; Moll & Diaz, 1987; Moll, Diaz, Estrada, & Lopez, 1988). These projects have affected the lives of many students who have participated, but like the other efforts, they have focused mainly on one ethnic group. In addition, they have been slow in moving beyond the context(s) of immediate concern to restructure literacy education more generally. In many cases the positive results have not outlived the programs (see Yap, Estes, & Nickel [1988] on KEEP and Heath [1983 postscript and 1990]). We know something about what is needed to improve instruction in the short run and in particular settings and for one group at a time, but we know less about the principles that stimulate and then sustain major reforms.

On a related note, there has been little attention to the specific teaching challenges when students from multiple socioeconomic and sociocultural groups come together in a single classroom. A number of Center projects, including those by Dyson and Freedman, focus on the challenges teachers face when low-SES and minority students meet in the multicultural classroom. Both projects focus on the nature of literacy activities, how students engage in those activities, and the role of explicit instruction.

A potentially helpful tool for engaging students in new kinds of literacy is computer technology. The time is arriving when teachers at all levels will have the opportunity to make use of word-processing systems and various sorts of electronic writing aids—spelling and grammar checkers, outliners, idea generators—in writing instruction and as classroom resources (U.S. Congress Office of Technology Assessment, 1988). With this opportunity also comes the opportunity to imagine and develop new curricula and classroom organizations (Kurland, 1990; Sheingold, Martin, & Endreweit, 1987). Initially, research on technology and writing asked what effect word-processing has on written products and writing processes (e.g., Bridwell-Bowles, Johnson, & Brehe, 1987; Daiute, 1986; Engberg, 1983; Haas, 1989; Hawisher, 1987; Heap, 1989; Kurth, 1987; Lutz, 1987; McAllister & Louth, 1988; Pheniz & Hannan, 1984; Woodruff, Bereiter, & Scardamalia, 1981), but increasing attention is being given to how technology is actually used in classrooms (e.g., Cazden, Michaels, & Watson-Gegeo, 1984; Genishi, 1989; Greenleaf, 1990; Herrmann, 1987; Olson, 1988). In these efforts, attention is paid, not just to the equipment and the software, but to how it can be introduced into classrooms (Mehan, 1989a), what problems teachers face, and what opportunities they have. Further research is particularly needed with such recent technological developments as hypertext and hypermedia systems, which allow writers to compose non-linear documents consisting

of some combination of text, graphics, animation, sound, video, and images (Conklin, 1987). Such systems can potentially support new literacies, different forms of writing and reading. In her project on technology and writing instruction, Hull is exploring both these new possibilities for literacy and the support teachers need to make these possibilities happen.

More broadly, Center projects are concerned with the nature of school contexts that support teacher reflection about instructional issues in writing and literacy education and that thereby support instructional change. We know that new classroom approaches, like new classroom technologies (cf. Dwyer, Ringstaff, & Sandholtz, 1990), are commonly shaped to fit comfortably into old structures, even if the shaping results in a distortion of the approach (e.g., Applebee's [1984] discussion of approach and Florio-Ruane and Lensmire's [1990] study of student teachers' resistance to new ideas about teachers' roles). Teacher-research projects may be one important activity that leads to an inquiring stance that promotes significant instructional change (for examples, see Atwell, 1982, 1987; Calfee & Hiebert, 1988; Myers, 1985; Newkirk & Atwell, 1988; Richmond, 1984). Since much of the activity of the teacher-research movement has focused on writing (Cochran-Smith & Lytle, 1990; Lytle & Cochran-Smith, 1989; Odell, 1976, 1979), a focus on the relationship between instructional change and teacher research is crucial for this Center's mission. Therefore, as Center projects attempt to understand what is involved in changing instructional processes, they are exploring the contributions of teachers as researchers.

In her ethnographic study of a teacher-research group, Sandra R. Schecter is examining how teachers' engagement in inquiry about their own pedagogy influences their views of classroom practice and of themselves as professionals. Further, she is considering teacher-research as an epistemology in its own right, exploring the kinds of knowledge teacher research can contribute about instructional issues in writing and literacy education. Freedman too has designed her national study of teaching and learning in the multicultural classroom to involve a substantial component of teacher research. As part of the national study, teachers are gathering data in their own multicultural classrooms and reflecting on the kinds of explicit instruction needed to take advantage of diverse voices in the classroom. This collaborative project with teachers includes moving beyond particular settings to determine underlying instructional principles that are both powerful enough and specific enough to help us resolve some of the major tensions that create barriers to literacy learning. In this and other Center projects and activities we ask: What problems do teachers in varied setting face? How might we learn from the struggles of teachers and other practitioners? In particular, what can we learn about such issues as student engagement, explicit teaching, the needs of students from multiple cultural groups? What is the nature of helpful teacher behavior in writing instruction across varied settings and for varied kinds of students?

All Center projects and activities move beyond descriptions of the status quo, learning from the stance toward schools (and we would add teachers) that Lightfoot (1983) describes when she discusses "good enough" schools:

> I am urging a definition of good schools that sees them whole, changing, and imperfect. It is in articulating and confronting each of these dimensions that one moves closer and closer to the institutional supports of good education. (p. 311)

Assessment. As a nation we are faced with significant problems in assessing student writing. Whether writing assessments are large-scale or classroom-based, educators are becoming increasingly concerned about their appropriateness for accomplishing basic assessment functions such as placement of students in programs or classes; certification that students have mastered writing at some level; evaluation of writing

programs in the school, district, or in some cases classroom; deciding the fate of individuals with respect to admissions, promotion, or graduation ("gatekeeping"); and monitoring individual development, especially in the classroom (see Witte & Faigley [1983] and Faigley, Cherry, Jollifee, & Skinner [1985] for discussions of the functions of placement, certification, and program evaluation). As a Center, we are interested in the tensions that emerge as assessments attempt to fulfill these varied purposes and moreover, in contributing to new, integrative theoretical frames to guide assessment reform.

Historically, writing assessment, for all purposes except monitoring students' individual development inside classrooms, has been caught between tensions concerning validity and reliability. From 1890 on into the 1960s the College Entrance Examination Board (CEEB) struggled to move away from multiple choice "indirect" measures of writing, a technique with questionable validity but high reliability, and to replace multiple-choice tests with "direct" evaluations of actual samples of student writing, a technique with improved validity but questionable reliability (Diederich, French, & Carlton, 1961; Godshalk, Swineford, & Coffman, 1966; Huddleston, 1954; Meyers, McConville, & Coffman, 1966). In the 1960s CEEB developed ways of training raters to agree independently on "holistic" or general impression scores for essays, thus solving the reliability problems of direct assessment (Cooper, 1977; Diederich, 1974) and opening the door to the currently widespread large-scale direct assessments of writing (Davis, Scriven, & Thomas, 1987; Diederich, 1974; Faigley et al., 1985; Myers, 1980; White, 1985). For holisitic scoring, essays are collected on an assigned topic, written in a relatively short time, and in a testing situation. The essays are then rated by teachers, who collaboratively set scoring standards. Once raters could be trained to agree on holistic scores, other related scales for scoring student writing evolved. Among these are an analytic scale on which raters give separate scores on content, organization, development, sentence structure, spelling, and mechanics (Diederich, 1974) and a primary trait scale, which also has multiple scoring categories, developed for and still used by NAEP (Lloyd-Jones, 1977). (For critiques of NAEP, see Mellon [1975], Nold [1981], and Silberman [1989].)

Now that large-scale direct assessments of writing are in widespread use, educators are again raising questions about validity. Test-writing has little function for student writers other than for them to be evaluated. Too, students must write on topics they have not selected and may not be interested in. Further, they are not given sufficient time to engage in the elaborated processes that are fundamental to how good writers write and to how writing ideally is taught (Brown, 1986; Lucas, 1988a,b; Witte et al., in press). Purves (1990) accurately calls these timed, test-writing samples rough-drafts. Besides the "unnaturalness" of the writing conditions, the scoring techniques may also compromise validity. For holistic and analytic ratings, raters are trained to rate each piece of student writing relative to the other pieces in the set, without consideration of standards external to the examination itself (Charney, 1984); in the case of primary trait scoring, standards are particular to a topic. We are attempting to measure writing abilities in general by rating one kind of writing written in one kind of context.

Center projects are systematically examining new writing assessment alternatives designed to address these validity issues and to provide a broader sense of what writing is. The best known of these alternatives is portfolio assessment. A portfolio is a collection of the writing that students actually do as part of their ongoing instruction and that aims to get around the problem of one-shot evaluation procedures (Anson, Bridwell-Bowles, & Brown, 1988; Belanoff, 1985; Burnham, 1986; Calfee & Sutter-Baldwin, 1987; Calfee & Hiebert, 1988; Camp, 1985a,b; Camp & Belanoff, 1987; Elbow, 1986; Elbow & Belanoff, 1986a,b; Fowles & Gentile, 1989; Lucas, 1988a,b; Murphy, 1985; Murphy & Smith, 1990; Valencia, McGinley, & Pearson, 1990; Wolf, 1988). Such portfolios have long been a staple of many informal classroom assessments marked by careful teacher

observation and careful record keeping (e.g., anecdotal records, folders of children's work samples). Through such techniques, student progress is revealed by patterns in behaviors over time (British National Writing Project, 1987; Dixon & Stratta, 1986; Genishi & Dyson, 1984; Graves, 1983; Jaggar & Smith-Burke, 1985; Newkirk & Atwell, 1988). Further, teachers may involve students in the evaluation process (Burnham, 1986; Graves, 1983; Wolf, 1988), discussing with them their ways of writing and their products, articulating changes in processes and products over time and across kinds of writing activities; students are thus helped to formulate concepts about "good" writing, including the variability of "good" writing across situations and audiences (Gere & Stevens, 1985; Knoblauch & Brannon, 1984).

As portfolios are introduced into the nation's classrooms, we are seeing a move toward large-scale uses of portfolios at the school, district, and state levels, and the experimental collection of information from writing portfolios by NAEP. Just as in an earlier day the profession called for direct assessment of writing rather than multiple-choice tests and then began to solve problems of rater reliability, we now find ourselves in a similar situation as we attempt to move from the standard direct assessments to portfolios. We are collecting portfolios without adequate ways of assessing them on a large scale, although Great Britain provides one well-elaborated model for large-scale portfolio evaluation (for a discussion, see Dixon & Stratta, 1986; O'Hear, 1987). The need for supportive and classroom-based assessments are particularly great in the elementary and middle grades—so that we can monitor closely and ensure our success from the start in helping all children become literate.

Thus, Robert Calfee's project is examining systematically, across state, district, school, and classroom portfolio assessment contexts, the ways elementary and middle school writing assessments meet, or do not meet, the functions they are intended to serve. In addition, this project is looking at the nature of the information provided by assessments, the ways information is conveyed, and the ways information is used. Moreover, this project is pointing the direction for a set of studies that will explore measurement issues critical to evaluating portfolios and to providing direction for large-scale portfolio efforts that could inform and be informed by *classroom* efforts. This is particularly important, since testing programs often exert powerful influences over the nature of instruction in writing and reflect "what counts" as literacy (Calfee & Hiebert, 1988; Cooper, 1981a; Cooper & Murphy, in progress; Cooper & Odell, 1977; Diederich, 1974; Loofbourrow, 1990; Mellon, 1975; Myers, 1980; Resnick & Resnick, 1977, 1989, 1990). Integral to Calfee's research is collaboration with teachers and other educators. Finally, John R. Hayes and Karen A. Schriver, working with a college and secondary school population, are experimenting with the kinds of information two innovative approaches to assessment might yield. The first, "situated evaluation," explores evaluations based not on idealized criteria of "good" writing but on how members of an intended audience in fact respond. The second, "controlled evaluation," examines the kind of information it is possible to get using varied kinds of small tasks.

The goal of Center research on assessment is to examine critically current purposes and methods for assessing writing and for reporting results to interested parties, with particular focus on portfolio assessment and on other experimental assessment alternatives. These projects attempt to understand what constitutes helpful assessment for teachers who seek information about their students and for policy-makers who seek to measure our progress in attaining state and national educational goals in the area of written language. The Calfee project, further, is exploring the role that teacher-driven and classroom-based assessment could play in educational reform.

SUMMARY

In continuing and building upon past efforts, the National Center for the Study of Writing and Literacy, in collaboration with researchers and practitioners around the world, is forging new theoretical and pedagogical directions in writing and literacy. Through our research projects and activities we aim to respond boldly and straightforwardly to the critical challenges facing educators across grade levels and curriculum areas. These challenges urge us to move beyond the generalities of current writing theory and pedagogy. We aim to develop theories, research agendas, and principles of assessment and instruction that are built upon a thorough understanding of the diversity of our population and of literacy itself. To accomplish these objectives, we are conducting research projects and activities that address the concerns and make use of the knowledge and experience of practitioners, parents, community leaders, and employers. This integrative and collaborative approach is essential for the success of the Center and for true educational change.

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